Development of active learning and NNN for new remote sensing technique

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Earth getting warm by incoming solar radiation and emitting the thermal energy to space by outgoing terrestrial radiation. Clouds can cool the Earth by reflecting solar radiation but also maintain warmth by absorbing and emitting terrestrial radiation. Similarly aerosols have an effect on radiation budget by absorption and scattering of Solar radiation. Therefore it is important to estimate the earth's radiation budget accurately based on observation for understanding of climate. Satellite analysis is reasonable method for wide area analysis [1]. Atmospheric and surface parameters (aerosol, cloud, and surface albedo, etc.) are analyzed by satellite remote sensing. Similary, Photovoltaic power analysis needs accurate solar radiation analysis based on accurate atmospheric parameters. In this study, we developed the new learning algorithm for satellite analysis. We update the algorithm by new high speed radiative transfer solver by Neural Network. Learning Algorithm plus (LA+) accelerate advanced remote sensing inversion technique by Active learning and NNN [2].

References

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